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ABSTRACT

Results of a survey show that high school students in North Carolina think about, attempt, and are injured as the result of a suicide attempt with alarming frequency. This report summarizes suicide-related data from the North Carolina Youth Risk Behavior Survey (1993). Younger students are more at risk of suicide than older students; more than one in five ninth graders made a plan to commit suicide. Female students appear to be at greater risk than male students for thinking about or attempting suicide. White females were more likely to attempt suicide than black females and white males were more likely than black males. White female ninth grade students had the highest percentage of reported preoccupation with and attempts to commit suicide. Overall, students from the "other" ethnic groups were more likely to attempt suicide than black or white students. Since the exact composition of the "other" category is unknown, additional research on ethnic breakouts relative to suicide is suggested. Contains eight references and the survey instrument. (JE)

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Selected Indicators of

Adolescent Suicide in high school Students

Division of Development
and Evaluation Services
Accountability Services Area
North Carolina Department
of Public Instruction
Bob Etheridge, State Superintendent

1995

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SELECTED INDICATORS OF ADOLESCENT SUICIDE IN HIGH SCHOOL STUDENTS:

Results of the 1993 North Carolina Youth Risk Behavior Survey

Prepared by
Victoria A. Mikow, PhD

February 1995

Division of Development and Evaluation Services
Accountability Services Area

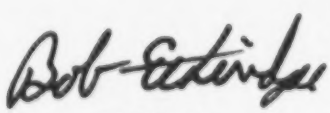
North Carolina Department of Public Instruction
Bob Etheridge, State Superintendent

FOREWORD

It is extremely disturbing to think that young people could feel such despair that they seriously consider or attempt suicide. We are all aware of the tragedy that accompanies a teenage suicide. Youth should be a period of unparalleled hope about the future. Yet, as this report shows, an alarming number of North Carolina students have engaged in behaviors that leave little doubt that they consider suicide to be an option.

This report takes a close look at how often our high school students have considered, planned for, or attempted suicide. Its findings suggest that a substantial proportion of high school students, especially young girls, are at risk.

I find it deeply distressing that any youngster could think about suicide. As State Superintendent, I want every child in North Carolina to grow up healthy, safe, and optimistic about his or her future. A child who feels hopeless cannot maximize his or her academic potential. It is critical that we find ways to assist our students in reducing those pressures that lead to thoughts of suicide so that their futures may be bright. I believe that it is essential that we help adolescents to learn healthy ways of coping. Losing even one student to suicide is a tragedy that North Carolina cannot afford.



Bob Etheridge
NC Department of Public Instruction

EXECUTIVE SUMMARY

High school students in North Carolina think about, attempt, and are injured as the result of a suicide attempt with alarming frequency. Based on results reported in this study, younger students appear to be at greatest risk for suicide. Ninth grade students showed the highest frequency on all indicators of suicide. Nearly one in three 9th graders reported seriously considering suicide, more than one in five made a plan to commit suicide, more than one in ten attempted suicide, and one in twenty ninth grade students was injured seriously enough to require medical attention as the result of a suicide attempt.

Older students appear to be at less risk for suicide. By the time students reached their senior year of high school, they were least likely to consider or attempt suicide compared to high school students in lower grades. About two in ten seniors seriously considered suicide and about one in fifty seniors required medical attention as the result of a suicide-related injury.

Female students appear to be at greater risk than male students for thinking about or attempting suicide, as is consistent with national research. Nearly one in three white females seriously considered suicide in the year prior to the administration of the survey compared to about three in ten black females. Compared to males, both black and white females were more likely to think about and attempt suicide. One in five white and one in ten black males had seriously considered suicide. Disturbingly, nearly one-quarter of white and one in five black females planned a suicide in the year prior to the survey. White females were twice as likely as white males to have attempted suicide and have a suicide-related injury that required medical attention. White female ninth grade students had the highest percentage of reported preoccupation with and attempts to commit suicide.

Although younger students appear to be at greater risk for suicide than older students, overall students from "other" ethnic groups reported the highest frequencies in all categories of suicidal behavior. These students were more likely to seriously consider suicide, more likely to have made a plan to commit suicide, and more likely to report attempting suicide than black or white high school students. Since it is not possible to determine which specific ethnic groups comprise the "other" category, the findings reported here suggest a need for additional research to assess risk for suicide by ethnic category.

The disturbing prevalence of suicidal behavior in high school students has implications for school staff and health practitioners. The identification of this high risk behavior suggests the need for careful assessment and thoughtful suicide prevention programming.

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Introduction

Adolescence is a developmental period of substantial growth and change. For most teens, it is a time in which the possibilities of life seem limited only by imagination. Increasingly, however, it appears that adolescence is a time of despair and hopelessness for a significant proportion of the teen population. A growing number of teenagers end their futures prematurely by taking their own lives.

Cumulative health data indicate that there has been a steady increase in the rate of suicide among adolescents ages 15-19 for more than three decades (American Medical Association, 1990). Currently, suicide is the third leading cause of death in the 15-19 year-old group, following deaths caused by motor vehicle accidents and homicide (Hicks, 1990). Nationally, it is estimated that between one-tenth and one-quarter of all adolescent deaths are the result of suicide (Hicks, 1990).

Similar to the nation, suicide is the third leading cause of death among youth ages 15 to 24 in North Carolina. It is the second leading cause of death among white male adolescents in North Carolina, accounting for 13.4 percent of all deaths (Centers for Disease Control, 1993).

There is little definitive research that establishes the underlying causes for the continuing rise in rates of suicide among the young. No other age group approaches the adolescent suicide rate. This suggests that there are differential factors responsible for the increase in adolescent suicide. Obviously, suicide is one of the most preventable causes of death among young people. "The will to live against all odds seems to be a part of the human condition; a departure from that state is nearly always associated with acute psychological distress" (Shaffer, 1993). Risk factors for suicide among adolescents include substance abuse, depression, loss of important relationships, impulsiveness and aggression, lack of interpersonal skills, and the availability of firearms in the home (Laws & Turner, 1993; Laws, 1993; Shaffer, 1993).

Several general population surveys of adolescents show that about ten percent of teens have attempted suicide at least once (American Medical Association, 1990). Nevertheless, only a small proportion of teens who attempt suicide require medical attention as the result of the self-inflicted injuries. Among those who need medical attention, the risk for completion of suicide is significantly greater (American Medical Association, 1990). This suggests that there may be a continuum of escalating behaviors that end in completed suicides.

The research also shows that there are differential factors associated with suicide by gender; females tend to think about suicide and attempt it more frequently than males. Males, however, are much more likely to complete suicide than females (US Department of Health and Human Services, 1993). For school age youth, students who display suicidal behaviors are also likely to be at risk for other adverse outcomes, such as chemical dependency and dropping out of school (Deykin & Buka, 1994). A careful look at the dynamics of suicidal behavior in the adolescent population is needed so that educators can help teens reduce their risk for suicide.

In an effort to understand the extent to which our nation's youth are at risk for ending their own lives, the Centers for Disease Control (CDC) developed the Youth Risk Behavior Survey (YRBS) as a part of a national health monitoring effort. In addition, the YRBS measures other high risk behaviors that are associated with the leading causes of death and disability in the high school age group.

Since 1990, the North Carolina Department of Public Instruction has participated in a cooperative agreement with the CDC to conduct the Youth Risk Behavior Survey. The Youth Risk Behavior Survey contains indicators of high risk behavior in six areas:

- Unintentional (accidental) and intentional (physical violence) injuries
- Alcohol and other drug use
- Sexual behavior that results in HIV infection, other sexually transmitted diseases, and unintended pregnancies
- Tobacco use
- Physical fitness
- Nutritional and dietary habits

The information provided by the YRBS is intended to help focus educational programs and resources to address particular health problems, such as risk for suicide. The survey data also serve as benchmarks in tracking progress toward reducing high risk behaviors in the adolescent population.

Overview of the North Carolina Youth Risk Behavior Survey

The purpose of the Youth Risk Behavior Survey (YRBS) is to examine the behaviors associated with the six leading causes of death or disability in high school youth. For this report, selected indicators of suicidal behavior, taken from the 1993 North Carolina Youth Risk Behavior Survey (NC YRBS), are examined.

In 1990, the North Carolina Department of Public Instruction contracted with East Carolina University to conduct the first, limited YRBS survey. The partial 1990 survey excluded some of the YRBS questions and sampled only 9th and 12th grade students. Where possible in this report, comparisons are made from the limited YRBS conducted in 1990 for 9th and 12th grade students only.

In 1993, North Carolina elected to participate fully in the YRBS. However, a modified version of the YRBS was developed so that some questions from the North Carolina Alcohol and Drug Defense Student Survey (ADD) could be included. The 1993 NC YRBS was administered to a representative sample of all 9th through 12th grade public school students in the spring of 1993.

Seventy-one schools were randomly selected as NC YRBS survey sites from a base of 407 public schools containing approximately 300,000 students in grades 9-12. Of the 71 schools chosen and 2961 students included in the sample, 12 (16.9%) schools elected not to participate in the study at all, four (5.6%) schools required active parental permission for students to participate in the survey, and six (8.5%) chose not to include the sexual behavior questions located at the end of the survey. Two reasons were cited most often for non-participation in the survey: (1) the questions about adolescent sexual behavior were unacceptable or inappropriate at the local level, and (2) other similar surveys or educational activities were scheduled at the same time. The final sample included 59 schools (83.1% response rate) and 2531 students who were surveyed. To ensure accurate responses to sensitive questions as well as privacy and confidentiality, participation in the survey was entirely voluntary; students could decline to participate at any point in the survey administration.

Eighty-two percent (2439) of the students sampled completed usable surveys. Of those, 49.2 percent (1200) were male and 50.6 percent (1235) were female (Figure 1). Four students did not identify their sex. Summarizing demographic information about the students by grade, the results indicate that 29.6 percent (722) of the students were in the 9th grade, 28.5 percent were in the 10th grade, 23.9 percent (582) were in the 11th grade, and 17.4 percent (425) of the students were in the 12th grade. There were 16 (.7%) students who did not identify their grade level. By ethnic group, 65.4 percent (1595) of high school students identified themselves as white, 28.4 percent (693) as black, 1.2 percent (30) as Hispanic, and 4.8 percent (117) as "other." The 1993 NC YRBS sample closely approximates the ethnic distribution of North Carolina students as a whole in 1993: white students in North Carolina comprised 66.1 percent, blacks represented 30.2 percent, and Hispanics were 1.1 percent of the total student population. As a note of caution, there were too few Hispanic students to provide representative information about their suicidal behavior so the 1993 NC YRBS findings are limited to white, black, and "other" students.

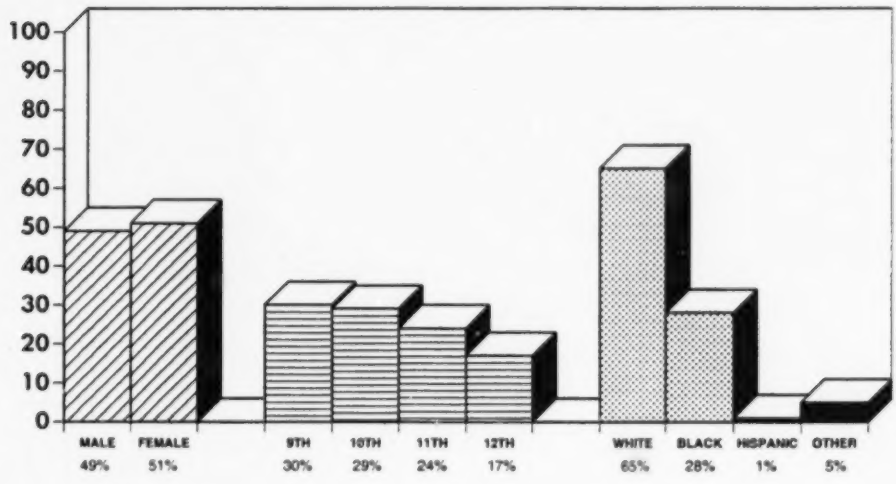

Figure 1. 1993 NC YRBS 9th-12th grade student sample
by sex, grade, and race

Indicators of Suicidal Behaviors and Intentions

Four questions address suicidal intentions and behaviors in the 1993 NC YRBS. Students were asked whether they had thought seriously about attempting suicide in the year prior to the survey (intent), whether they had made a specific plan about how they would commit suicide (intent), how many times they attempted suicide (behavior), and whether their suicide attempts resulted in injuries that had to be treated by a doctor or nurse (behavior). Where possible, some limited comparisons are made to the 1990 NC YRBS findings on questions that pertain to suicide among 9th and 12th grade students only.

SERIOUS CONSIDERATION OF SUICIDE

Twenty-four percent of all high school students in North Carolina reported that they seriously considered attempting suicide in the year prior to the survey (Figure 2). Based on a population of approximately 300,000 9th-12 grade students in North Carolina, this indicates that about 72,000 high school students seriously considered suicide in 1993. Consistent with national findings, females were more likely to have considered suicide than males, and "other" and white students were more likely to have seriously thought about suicide than black students. Younger teens were more likely to consider suicide than older teens.

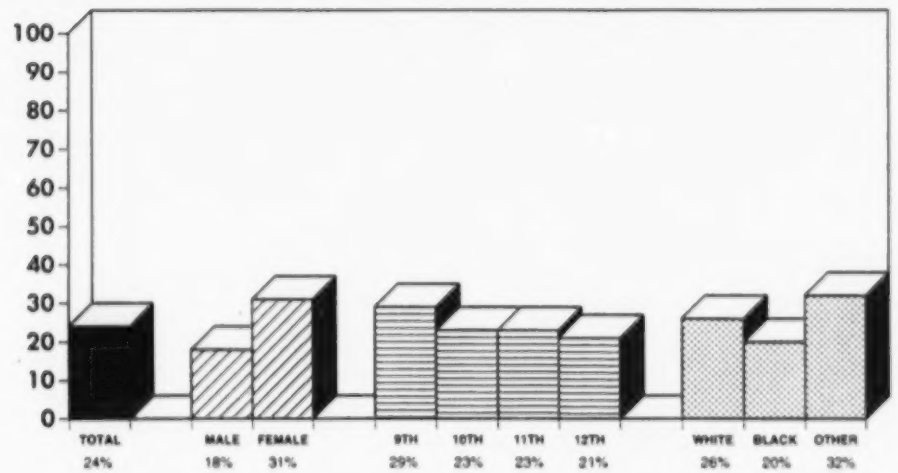

Figure 2. Percent of NC students seriously considering suicide in past 12 months

- Twenty-four percent of 9th-12th grade students reported that they had seriously contemplated suicide in the year prior to administration of the survey.
- Females (31%) were nearly twice as likely to have seriously considered suicide as males (18%).
- Seriously considering suicide declined with age: ninth graders (29%) were the most likely to have seriously thought about suicide, followed by 23 percent of 10th graders and 11th graders, and 21 percent of 12th graders.
- "Other" (32%) students were more than one and one half times as likely to have seriously considered suicide than blacks (20%). Twenty-six percent of white students seriously considered suicide in the past year.

Serious Consideration of Suicide by Gender and Race

When examined by gender, white females were most likely to report seriously considering suicide in the past twelve months, followed by black females, white males, and black males (Figure 3).

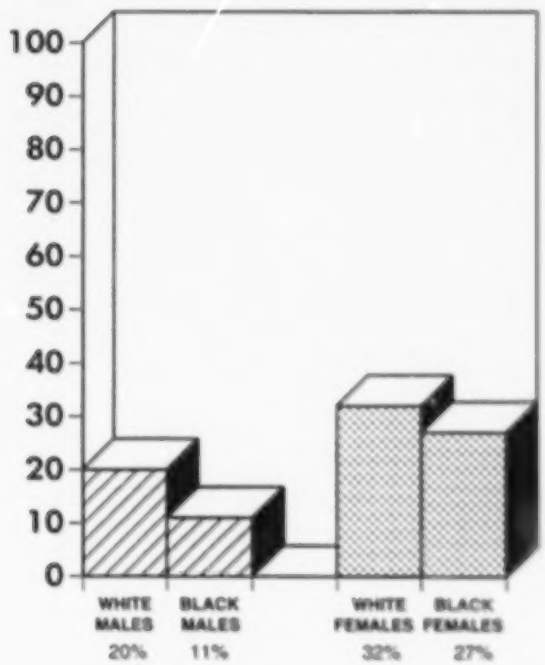

Figure 3. Percentage of NC students seriously considering suicide in past twelve months by gender and race

- Thirty-two percent of white females had seriously considered suicide compared to 27 percent of black females.
- Twenty percent of white males and 11 percent of black males had considered suicide seriously in the year prior to the survey.

PLANNING A SUICIDE

Making a plan about how one would commit suicide is considered a greater risk than seriously considering suicide, along a continuum to suicide completion. Nineteen percent, or approximately 57,000 high school students, reported that they made a plan about how to commit suicide in the year prior to the survey (Figure 4).

Compared to findings from the 1990 NC YRBS, the information indicates that more 9th and 12th grade students planned how to commit suicide in 1993 than did so in 1990. In 1990, 18 percent of 9th graders reported that they had planned suicide compared 22 percent of 9th graders in 1993. Thirteen percent of twelfth grade students made a plan about suicide in 1990 compared to 17 percent in 1993.

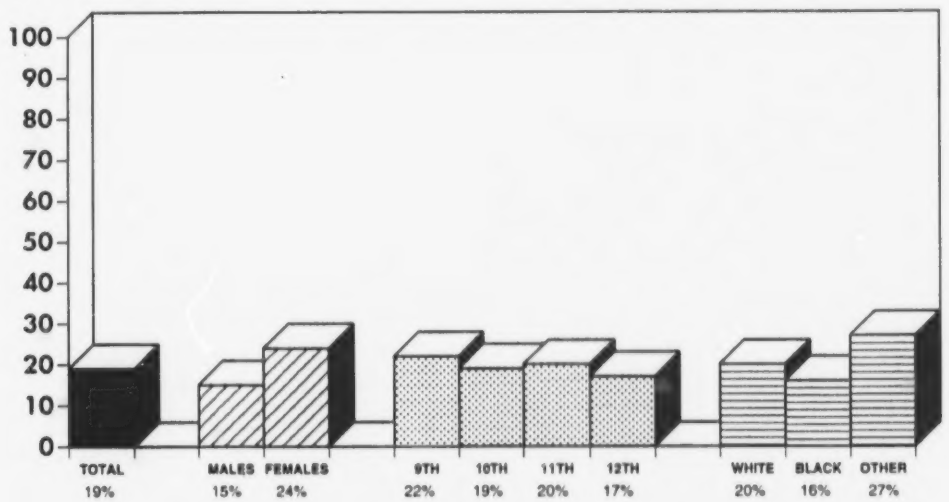

Figure 4. Percentage of NC students who planned suicide in past 12 months by gender, grade, and race.

- Nineteen percent of all high school students made a plan about committing suicide in the year prior to the survey.

- Female students (24%) were more than one and one half times as likely to plan suicide than male students (15%).

- Younger students were more likely than older students to plan a suicide. Twenty-two percent of 9th graders, 19 percent of 10th grade students, 20 percent of 11th graders, and 17 percent of 12th grade students reported that they made a plan about suicide in the year prior to the survey.

- "Other" students (27%) were most likely to have made a plan, followed by white (20%) and black (16%) students.

Planning a Suicide by Gender and Race

Consistent with previous findings concerning seriously considering suicide, white and black females were more likely to plan suicide than white or black males (Figure 5).

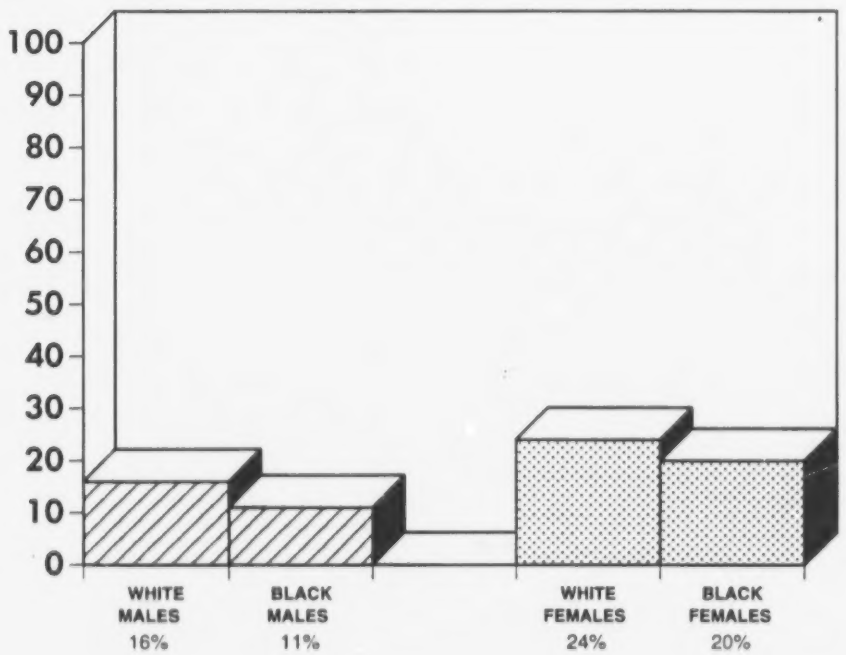

Figure 5. Percentage of NC students who planned suicide in past 12 months by sex and race

- Twenty-four percent of white and 20 percent of black females made a plan about suicide in the year prior to the survey.
- Sixteen percent of white and 11 percent of black male students planned suicide in the 12 month period prior to the survey.

ATTEMPTED SUICIDE

The seriousness of intent to commit suicide is indicated by attempted suicide. Students were asked whether they had actually attempted suicide in the year prior to the survey. Based on population estimates, approximately 27,000 high school students (9%) attempted suicide in the past 12 months. In contrast with "planning suicide," reported actual attempts at suicide decreased between 1990 and 1993 for ninth graders, and increased or stayed the same for 12th graders. In 1990, eight percent of 9th grade males and 18 percent of 9th grade females reported attempting suicide compared to five percent of 9th grade males and 16 percent of 9th grade females in 1993 who reportedly attempted suicide in the twelve month period prior to the survey. In 1990, four percent of 12th grade males and six percent of 12th grade females attempted suicide. Eight percent of 12th grade males attempted and six percent of 12th grade females attempted suicide in 1993.

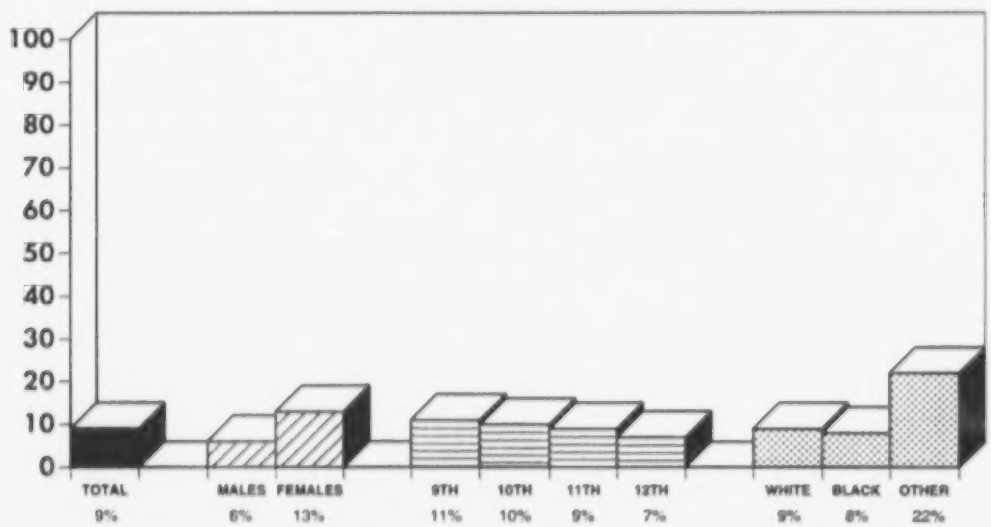

Figure 6. Percentage of NC students who attempted suicide during past 12 months by gender, grade, and race

- Nine percent of all high school students reported that they had attempted suicide at least once in the year prior to the survey.
- Females (13%)were more than twice as likely to attempt suicide as males (6%).
- Younger students were more likely to attempt suicide than older students. Eleven percent of 9th graders, 10 percent of 10th graders, nine percent of 11th graders, and seven percent of 12th graders attempted suicide in the past year.
- "Other" (22%) students were substantially more likely than white (9%) or black (8%) to report attempting suicide.

Attempted Suicide by Gender and Race

As previously noted, research shows that females, in general, are more likely to consider, plan, and attempt suicide than males. Figure 7 shows the percentage of North Carolina students who attempted suicide by race and gender. One in eight white female high school students reported attempting suicide at least once. One in ten black female students also did so. Clearly, white and black females were more likely to attempt suicide than white or black males. In fact, twice as many white females as white males attempted suicide. Similarly, two and one half times more black females attempted suicide than did black males.

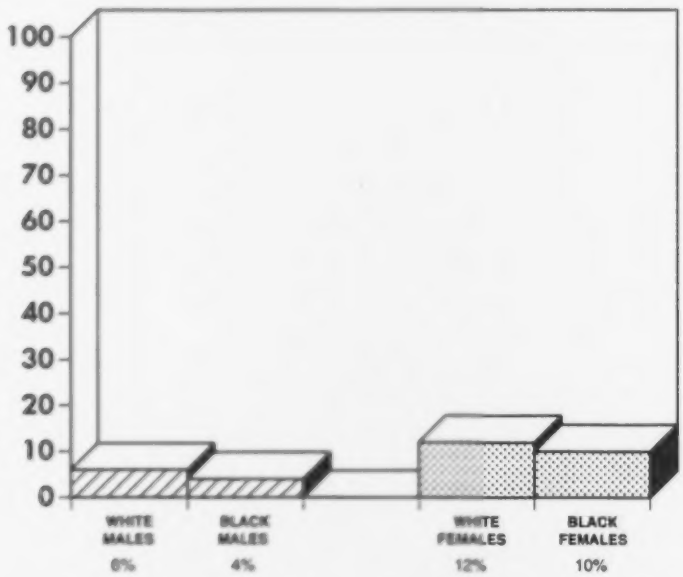

Figure 7. Percentage of NC students who attempted suicide during past 12 months by race and gender

- White females (12%) were somewhat more likely than black females (10%) to have attempted suicide.
- White males (6%) were somewhat more likely than black males (4%) to attempt suicide.

Injury Resulting from Attempted Suicide

Along a continuum from thinking about suicide to completing suicide, injuries that require medical treatment resulting from a suicide attempt illustrate a more serious intent than attempted suicide without injuries. Based on population estimates, approximately 9,000 high school students reported an injury associated with a suicide attempt that was serious enough to require medical attention. Nearly one in ten "other" students reported an injury associated with a suicide attempt, compared to one in 33 white and one in 50 black students.

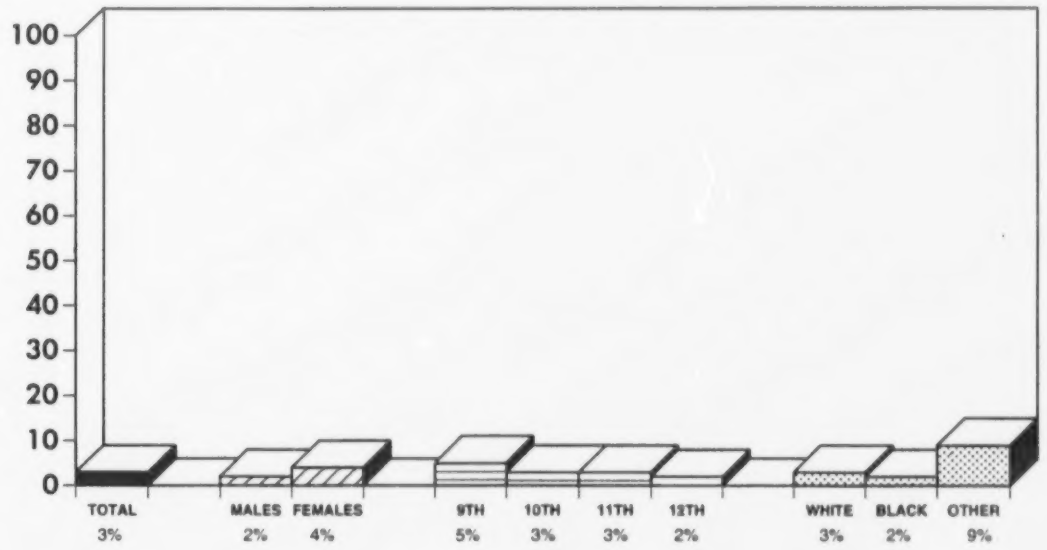

Figure 8. Percentage of NC students whose suicide attempts in the past 12 months resulted in medically treated injury

- Three percent of high school students reported a suicide attempt in the past year that resulted in an injury that required medical treatment.
- Twice as many females (4%) as males (2%) had a suicide attempt that resulted in a medically treated injury.
- Ninth graders (5%) were most likely to report a suicide-related injury. Three percent of 10th and 11th graders and two percent of 12th graders reported a suicide-related injury.
- "Other" (9%) students were three times more likely than white (3%) and more than four times more likely than black (2%) students to report an injury associated with a suicide attempt that required medical attention.

Injury Resulting from Attempted Suicide by Gender and Race

White female high school students were more likely to report an injury associated with a suicide attempt that required medical attention than black females. However, a greater percentage of both white and black females reported a suicide-related injury than did white or black male students.

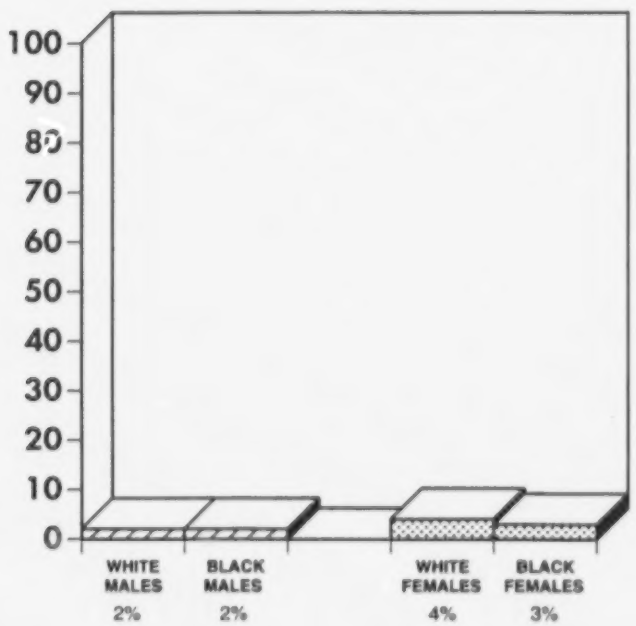

Figure 9. Percentage of NC students whose suicide attempts resulted in a medically treated injury by race and gender

- Four percent of white females and three percent of black females reported an injury that required medical attention as the result of a suicide attempt.
- Two percent of white and black males reported a suicide-related injury.

SUMMARY OF FINDINGS

It is frightening to most adults, and certainly to most parents, to think that a teenager could consider, let alone commit, suicide. While this report does not attempt to answer the question about why young people attempt suicide, it does describe the alarming frequency with which teenagers think about, attempt, and are injured as the result of a suicide attempt.

Younger students appear to be most at risk for a preoccupation with, and attempts to commit, suicide. Ninth grade students showed the highest frequency on all indicators of suicide. Nearly one in three 9th graders seriously considered suicide, more than one in five made a plan to commit suicide, more than one in ten attempted suicide, and one in twenty was injured seriously enough to require medical attention as the result of a suicide attempt. As students reached their senior year of high school, they were least likely to consider or attempt suicide. About two in ten seniors seriously considered suicide and only about one in fifty seniors required medical attention as the result of a suicide-related injury .

Consistent with national data, females were much more likely than males to report considering or attempting suicide. Nearly one in three white females seriously considered suicide in the year prior to the survey compared to about three in ten black females. However, compared to males, both black and white females were more likely to think about and attempt suicide. One in five white males and one in ten black males had seriously considered suicide. Nearly one-quarter of white and one in five black females planned a suicide in the year prior to the survey. White females were twice as likely as white males to have attempted suicide and have a suicide-related injury that required medical attention. White female ninth grade students had the highest percentage of reported preoccupation with and attempts to commit suicide.

Although younger students appear to be at greater risk of suicidal behavior than older students, overall "other" students reported the highest frequencies in all categories of suicidal behavior. These students were more likely to seriously consider suicide, more likely to have made a plan to commit suicide, and more likely to report attempting suicide than black or white high school students. Since it is not possible to determine which specific ethnic groups comprise the "other" category, the findings suggest a need for additional research to assess risk by ethnic group.

The disturbing prevalence of suicidal behavior in high school students has implications for school staff and health practitioners. The identification of this high risk behavior suggests the need for careful assessment and thoughtful suicide prevention programming.

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SELECTED QUESTIONS PERTAINING TO SUICIDE
FROM THE 1993 NC YRBS

25. During the past 12 months, did you ever **seriously** consider attempting suicide?

    a. Yes
    b. No

26. During the past 12 months, did you make a plan about how you would attempt suicide?

    a. Yes
    b. No

27. During the past 12 months, how many times did you actually attempt suicide?

    a. 0 (zero) times
    b. 1 time
    c. 2 or 3 times
    d. 4 or 5 times
    e. 6 or more times

28. If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?

    a. I did not attempt suicide during the past 12 months
    b. Yes
    c. No